

Pteris deflexa and its Allies

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ABSTRACT.—The taxonomic status of *Pteris deflexa* and *P. polita* and the nomenclatural status of three other names used in this species group are clarified.

The names *Pteris deflexa* Link, *P. gaudichaudii* J. Agardh, *P. lata* Kaulf. ex Link, *P. polita* Link, and *P. rostrata* Fée all apply to apparently related, free-veined species that occur principally in the Andes mountains or in southeastern Brazil. Over the years, these names have been treated differently in various Floras and indices.

Christensen (1905–1906, pp. 596–605) thought that *P. gaudichaudii* and *P. lata* were likely to be synonyms of *P. deflexa*, that *P. rostrata* was a synonym of *P. gaudichaudii*, and that *P. polita* was a synonym of *P. propinqua*. Based on the examination of material of *P. polita* that they presumed to be authentic, a specimen cultivated in the Botanical Garden at Berlin (*Link* in 1834, HBG—2 sheets), Morton (1967, p. 75) and then Lellinger (1989, p. 179) agreed with Christensen. However, this specimen was collected after the publication of *P. polita*, and so is not a type; furthermore, a satisfactory type for that species exists (see below). Based on an examination of the latter specimen, Tryon and Stolze (1989, p. 75) pointed out that *P. polita* is free-veined, and so cannot be the correct name for *P. propinqua*. The latter is a totally unrelated species with anastomosing veins, uni- or biarcuate veins along the costae between the costules, and also frequent areolae along the segment midribs. Tryon and Stolze placed *P. polita* as a synonym of *P. deflexa*.

Because all of these names were coined long before the type method evolved, the types are sometimes uncertain. That is particularly true for many of Link's species, because over a period of years Link often collected and recollected from plants growing in the garden at Berlin, and he himself did not mark any specimens as types. Link's specimens dated after his publication are not types, of course, but undated specimens and those collected earlier all are potential types. In such cases, taxonomists should examine all of Link's material and choose a suitable lectotype carefully.

Recently, I borrowed and examined the presumable holotype of *P. polita* from Berlin (B, spec. no. 113655; Tryon, photo US). At the lower left is a label with four lines: "Hb. Link/*Pteris podophylla* Sw./ *polita*/*Litobrochia podophylla*." At the right is an annotation on three lines in an old hand, perhaps by Mettenius: "*Pteris lata* Kaulf./Original exemplar von *Pteris polita* Lk./*Pt. deflexa* Lk. var.?" The specimen, apparently a complete frond in two pieces, lacking only some proximal portion of the stipe, can be described as follows: stipe nearly 45 cm long (incomplete), 3 mm wide, stramineous, glabrous; lam-

inae 33 cm long, ca. 25 cm wide at the base, subternate, the basal pinnae bipinnate-pinnatifid, the distal pinnae pinnatifid, the subapical pinnae strongly decurrent at the base from a reduced, basiscopic basal segment; lamina axes stramineous to rufobrunneous abaxially; hairs on the abaxial surface of the costules relatively few, coarse, rather stiff, dark reddish-brown, with distinctly elongate cells.

Based on my examination of the type of *P. polita* and on material and a type photograph of *P. deflexa* in the U. S. National Herbarium, it is clear that these are independent species. Sehnem (1972, pp. 109–114) accepted both species (*P. polita* as *P. gaudichaudii*), which he must have known in the field. He was able to distinguish them by their rhizomes, although I found no differences in their rhizome scales (both have strongly bicolorous rhizome scales with broad, thin, irregular or even ciliate margins). The two can be separated with the following key. The pinnule and pinna dimensions refer to most specimens, but the largest specimens of *P. deflexa* may have dimensions typical of *P. polita*, and the smallest specimens of *P. polita* may have dimensions typical of *P. deflexa*.

- Rhizomes creeping, 2–2.5 cm in diam.; subapical pinnae not or slightly adnate to the rachis, but never more than slightly decurrent at the base; hairs of the costae many, lax, pale reddish-tan, with cells generally about as long as wide; plants usually large, the basal pinnules 1–2 cm wide, the suprabasal pinnae 2(3) cm wide (Fig. 2) *P. deflexa*
- Rhizomes long-creeping, 0.5 cm in diam.; subapical pinnae strongly adnate to the rachis from a low, triangular lobe to obviously decurrent at the base; hairs of the costae few, stiff, dark reddish-brown, with cells generally at least twice as long as wide; plants usually medium-sized, the basal pinnules (1.5)2–3 cm wide, the suprabasal pinnae 2–3.5 cm wide (Fig. 1) *P. polita*

For the species in the following list that I believe are valid, I have cited a few specimens (all from US) from throughout their range to aid others in identifying their material.

***Pteris deflexa* Link** (Hort. Berol. 2:30. 1833).—TYPE: Cultivated in the garden at Berlin, originally from Brazil, *Link* s.n. (B, not seen; Tryon, photo US; Prado, xerocopy US).

The distal pinnae are pale, narrow, and subequal at the base. A valid species known from Hispaniola (*Ekman* H-7854, H-11792), Puerto Rico (*Britton & Marbler* 1064, *Sintenis* 2018), Venezuela (*Fendler* 102), Colombia (*Ewan* 16504, *H. H. Smith* 1083), Ecuador (*Rimbach* 313), Peru (*Killip & Smith* 23902, *Spruce* 4326) Bolivia (*Buchtien* 497, 3541, 5273, *Rusby* 116), northern Argentina (*Venturi* 111, 1993, 8879, 9070), Paraguay (*Balansa* 2835, *Fiebrig* 6025), southeastern Brazil to Est. Minas Gerais (*Dusén* 15282, *Mexia* 4853, *Rose & Russell* 20773, *Wacket* [*Ros. Fil. Austrobras. Exs.* 121a]), and Uruguay (*Arechavaleta* 68). Fig. 2.

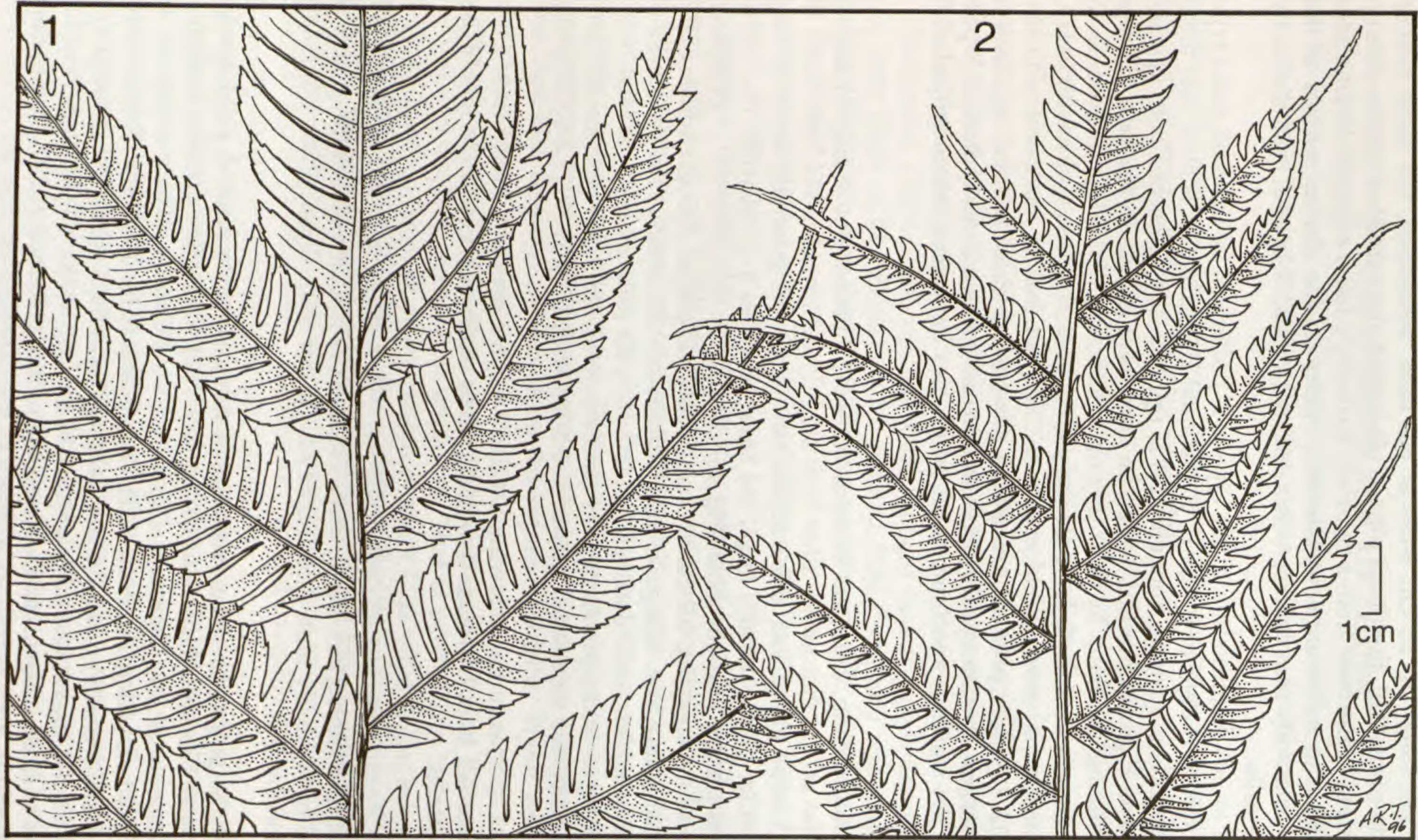


FIG.1. Lamina apex of *Pteris polita* showing adnate distal pinnae with asymmetrical bases (Brazil, Riedel s.n., US).

FIG.2. Lamina apex of *P. deflexa* showing non-adnate distal pinnae with symmetrical bases (Brazil, Mexia 4853, US).

***Pteris gaudichaudii* J. Agardh** (Recens. Spec. Pter. 42. 1839).—SYNTYPES: In or near Rio de Janeiro, Brazil, *Gaudichaud* s.n. (G, not seen; xerocopy US; isosyntype LU, not seen; Prado xerocopy US) and *Lund* s.n. (AWH, not seen; isosyntype LU, not seen; Prado, xerocopy US).—LECTOTYPE (chosen here): *Lund* s.n. (AWH).

The isosyntype fragment at LU collected by Lund consists only of one or two pinnae and is too fragmentary to be identified with certainty; it may be *P. deflexa*. The isosyntype fragment at LU collected by Gaudichaud matches the presumable holotype of *P. polita* better than that of *P. deflexa* in having pinnae that are darker in color and relatively wider and more asymmetrical at the base than are those of *P. deflexa*. In addition, the xerocopy of the syntype of this collection is of the apical portion of a lamina. It has pinnae similar to the fragment and, more importantly, the subapical pinnae are strongly adnate to the rachis and have a suggestion of a triangular basal basisopic lobe. A label "TYPUS" was pinned to this sheet sometime in the past. To fix the application of the name *P. gaudichaudii*, I choose this specimen as lectotype. A synonym of *P. polita*.

***Pteris lata* Kaulf. ex Link** (Hort. Berol. 2:28. 1833).—TYPE: Presumably the same as the holotype of *P. polita*. If so, a nomenclatural synonym of *P. polita*, with which the original description more or less agrees.

***Pteris polita* Link** (Hort. Berol. 2:30. 1833).—TYPE: Cultivated in the garden at Berlin, originally from Brazil, *Link* s.n. (B; Tryon, photo US). A valid species known from southeastern Brazil (*Glaziou* 435, *Rose & Russell* 20786, *Smith & Brade* 2222) and perhaps Guyana (*Schomburgh*). Fig. 2.

***Pteris rostrata* Fée** (Icon Esp. Nouv. 16, t. 33, f. 1 [Mém. Fam. Foug. 10]. 1865).—TYPE LOCALITY: "Habitat in America aequinoxiali," indicating an Andean origin.

Windisch (1982, p. 60) found two specimens, "Perou," *Spruce* (RB, not seen) and "In monte Campana prope Tarapoto," Peru, *Spruce* 4326 (US), that are possible types of *P. rostrata*. Both Fée's figure and the latter specimen match *P. deflexa* better than *P. polita*. A synonym of *P. deflexa*.

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